

Mineral Industry Surveys

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ZINC IN NOVEMBER 2003

Domestic mine production in November, at 63,200 metric tons (t), was about 4% more than in October, but was about 1% less than a year before, according to the U.S. Geological Survey. Smelter production, at 23,500 t, was about 8% more than in October and November 2002. Apparent consumption, at 82,100 t was about 6% more than in October, but was about 10% less than that of a year before.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc increased by about 3%, to 44.80 cents per pound in November; the price was about 18% higher than in November 2002.

There are some indications that treatment charges in 2004 will be slightly higher than in 2003. Western Europe lost between 420,000 t and 460,000 t of smelting capacity in 2003 following smelter closures or conversion of some primary smelters to secondary production. For the first 10 months of 2003, European refined zinc production has fallen by 5% compared with the same period in 2002, whereas mine production has increased by 32%. This imbalance will likely give smelters an advantage in treatment charge negotiations with miners (Metal Bulletin, 2003c).

Ontzinc Ltd. of Canada became a major player in the zinc industry when it proposed the takeover of Pasminco Ltd. of Australia. Its first offer of \$1.2 billion (\$920 million cash, \$220 million in assumed environmental liabilities, and \$60 million of lease commitments) was rejected in favor of an initial public offering, and Ontzinc is in the process of preparing a second bid. Sweetening the bid, however, will not necessarily entail increasing the cash component of the offer, since it already dwarfs the market value of Ontzinc, valued at \$35 million. The new offer could contain better warrants to Pasminco's creditors to acquire Ontzinc shares. Pasminco's key assets are the underground Rosebery zinc-lead-silver mining operations in Tasmania; the Century open-pit zinc mine in northwest Queensland; and four smelters in Australia, Netherlands, and the United States. Ontzinc owns the lead-zinc Scotia Mine in Nova Scotia, the recently acquired Balmat Mine in New York, and is currently exploring for lead and zinc in the Michigan Basin of southwestern Ontario (Metal Bulletin, 2003b).

Mine and smelter closures, or cutbacks, during the past 2 years helped to boost London Metal Exchange Ltd. (LME) zinc prices to well over \$900 per metric ton, a 23% increase compared with that of August 2002. Because of higher zinc prices, Glencore International AG of Switzerland reversed its decision to close its Porto Vesme metallurgical complex in Italy for 1 year and has begun preparations for restarting the operations. The complex was idled on October 1, 2003, after management from Porto Vesme and unions failed to resolve the issue of the complex's electricity costs with Italian Government officials. An additional reason for restarting the complex is the availability of bulk (zinc/lead) concentrate, which can only be processed by the increasingly little used Imperial Smelting Process (ISP). The largest producer of bulk concentrate, the McArthur Mine in Australia, recently lost three ISP smelters and, in the midst of a zinc concentrate shortage, there is a substantial buildup of bulk concentrate (CRU International Ltd., 2003b).

Outokumpu Oy announced that Finish regulatory bodies had approved the company's plan to sell its zinc and copper mining and smelting operations to Sweden's Boliden Ltd. The European Commission and other relevant competition authorities also agreed to Boliden's sale of processing technology and development units to Outokumpu. Boliden shareholders planned to vote on the two-way sale on December 18. The new company is to be called New Boliden Ltd. and will become one of the world's biggest smelting operations and the fourth largest producer of zinc concentrate (Platts Metals Week, 2003b).

China remained an aggressive buyer of zinc concentrate in 2003. While the amount of concentrate imports in 2003 will likely remain as high as during the previous year, the sources have changed. Reduced imports from Kazakhstan, owing to the opening of Kazakhmys new smelter, were replaced by increased imports of bulk concentrate from Australia and zinc concentrate from India (CRU International Ltd., 2003a). Some of the Chinese companies are planning to take advantage of increased zinc prices immediately; others are more cautious and have delayed restarting closed lines or have postponed expansions. Anhui Chizhou Nonferrous Metals Group Co. of China plans to

restart operations at its zinc smelter in the province of Anhui by yearend 2003, and Shaanxi Zinc Industry's Shagluo Zinc Smelter in Shaanxi Province was restarted in April and is operating at its full capacity of 50,000 metric tons per year (t/yr) (CRU International Ltd., 2003c). The largest zinc producer, the Liaoning-based Huludao Zinc Plant, is considering an upgrade and restart of its 130,000 t/yr zinc ingot production line by the second half of 2004. The company expects to produce about 200,000 t of zinc in 2003, of which up to 50,000 t is to be exported, about 40% less than in 2002. The amount of zinc exported in 2004 will probably be less than in 2003 owing to strong domestic demand and upcoming cuts in export tax rebates beginning in January 2004. A cautious approach was also adopted by Sichuan Hongda Group Co., which delayed the start of the first stage of its 200,000-t/yr project to 2004 (Platts Metals Week, 2003a).

China Metallurgical Construction Corp. (MCC) has signed a formal contract to develop the Duddar lead-zinc deposit in Balochistan Province, Pakistan. The Beijing-based company secured the mining rights from the Pakistani Government for \$73 million and aims to start production in 2005. All production is to be exported, mainly to China. Located in Kanraj Valley, Duddar will have a mine life of 14 years and will

be capable of yielding 100,000 t/yr of concentrate containing 65% zinc. Together with the Saindak copper mine it will create 1,000 direct and about 3,000 indirect job opportunities as well as royalties for the local Balochistan Government (Metal Bulletin, 2003a).

References Cited

- CRU International Ltd., 2003a, Focus: Zinc concentrate trade—CRU Monitor—Lead and zinc concentrates: CRU International Ltd., December, p. 8.
- CRU International Ltd., 2003b, Smelter news—CRU Monitor—Lead and zinc concentrates: CRU International Ltd., December, p. 10.
- CRU International Ltd., 2003c, Smelter news—CRU Monitor—Lead and zinc concentrates: CRU International Ltd., December, p. 11.
- Platts Metals Week, 2003a, China's unwrought zinc alloy exports drop 12%: Platts Metals Week, v. 74, no. 45, November 10, p. 2.
- Platts Metals Week, 2003b, Regulators approve Boliden deal: Platts Metals Week, v. 74, no. 50, December 15, p. 10.
- Metal Bulletin, 2003a, MCC to expand Saindak and develop new lead-zinc mine: Metal Bulletin, no. 8817, November 24, p. 6.
- Metal Bulletin, 2003b, Out of the shadows: Metal Bulletin, no. 8819, December 8, p. 14.
- Metal Bulletin, 2003c, Zinc market awaits start of treatment charge talks: Metal Bulletin, no. 8815, November 10, p. 14.

TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

	2002	2003			
	January- December	September	October	November	January- November
Production:					
Mine, zinc content of concentrate	780,000	65,800	60,900 ^r	63,200	705,000
Mine, recoverable zinc	754,000	63,300	58,600 ^r	60,800	678,000
Smelter, refined zinc	259,000	21,600	21,800	23,500	252,000
Consumption:					
Refined zinc, reported	421,000	36,800	37,000 ^r	35,700	388,000
Ores ^e (zinc content)	617 ^r	61	61	61	666
Zinc-base scrap ^e (zinc content)	189,000	15,900	15,900	15,900	175,000
Copper-base scrap ^e (zinc content)	176,000	14,700	14,700	14,700	161,000
Aluminum-and magnesium-base scrap ^e (zinc content)	1,430	120	120	120	1,320
Total ^e	789,000 ^r	67,500	67,800 ^r	66,400	726,000
Apparent consumption, metal ²	1,150,000	90,000 ^r	77,100 ^r	82,100	949,000 ³
Stocks of refined (slab) zinc, end of period:					
Producer ⁴	XX	7,790	8,300	8,300	XX
Consumer ⁵	XX	53,300	54,900	54,900	XX
Merchant	XX	10,500 ^r	9,950 ^r	10,100	XX
Total	XX	71,600 ^r	73,100 ^r	73,200	XX
Shipments of zinc metal from Government stockpile	5,040	841	--	539	7,330
Imports for consumption:					
Refined (slab) zinc	874,000	57,000	59,900	NA	620,000 ⁶
Oxide (gross weight)	69,700	8,030	8,950	NA	82,300 ⁶
Ore and concentrate (zinc content)	122,000	11,400	24,000	NA	130,000 ⁶
Exports:					
Refined (slab) zinc	1,160	120	227	NA	1,310 ⁶
Oxide (gross weight)	10,800	938	927	NA	10,000 ⁶
Ore and concentrate (zinc content)	822,000	152,000	183,000	NA	787,000 ⁶
Waste and scrap (gross weight)	47,700	4,210	5,050	NA	39,700 ⁶
Price:					
London Metal Exchange, average, dollars per metric ton	\$778.38	\$817.81	\$897.54	\$914.16	\$813.68
Platts Metals Week North American Special High Grade, average, cents per pound	38.64	40.07	43.70	44.80	39.98

^eEstimated. ^rRevised. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

²Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

³Data based on reported consumption, stocks, and estimated trade data.

⁴Data from U.S. Geological Survey and American Bureau of Metal Statistics.

⁵Includes an estimate for companies that report annually.

⁶Includes data through October only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES¹

(Metric tons)

Month	Beginning stocks ²	Production	Shipments	Ending stocks ²
2002:				
November	7,020	21,800	20,800	7,970
December	7,970	23,500	22,900	8,550
Year	XX	259,000	257,000	XX
2003:				
January	8,550	24,900	21,500	11,900
February	11,900	22,800	25,800	8,930
March	8,930	21,700	24,500	6,110
April	6,110	23,000	20,700	8,340
May	8,340	22,400	23,500	7,300
June	7,300	24,200	23,700	7,770
July	7,770	22,100	21,500	8,360
August	8,360	23,500	23,600	8,230
September	8,230	21,600	22,100	7,790
October	7,790	21,800	21,300	8,300
November	8,300	23,500	23,800	8,010
January-November	XX	252,000	252,000	XX

XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT¹

(Metric tons)

Industry and product	2002	2003			January-November
	January-December	September	October	November ²	
Galvanizing:					
Sheet and strip	477,000	37,300 ^r	32,200 ^r	34,300	401,000
Other	175,000	12,300 ^r	9,700 ^r	10,800	131,000
Total	652,000	49,600 ^r	41,900 ^r	45,100	532,000
Brass and bronze	189,000	14,900	12,700 ^r	13,100	151,000
Zinc-base alloy	233,000	18,700	16,300	17,400	202,000
Other uses ³	71,700	6,800	6,200	6,500	64,000
Grand total	1,150,000	90,000 ^r	77,100 ^r	82,100	949,000

^rRevised

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on reported consumption, stocks and estimated trade data.

³Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES¹

Period	North American	LME cash	
	¢/lb.	¢/lb.	\$/t
2002:			
November	38.09	34.70	764.91
December	39.69	36.17	797.36
Year	38.64	35.31	778.38
2003:			
January	38.72	35.43	781.01
February	38.68	35.60	784.80
March	38.88	35.86	790.60
April	37.23	34.21	754.30
May	38.18	35.17	775.33
June	38.87	35.85	790.31
July	40.54	37.52	827.19
August	40.10	37.08	817.48
September	40.07	37.10	817.81
October	43.70	40.71	897.54
November	44.80	41.47	914.16
January-November	39.98	36.91	813.68

¹Special High Grade.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC¹

Material	2002		2003 ²			
	Quantity (metric tons)	Value (thousands)	October		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,160	\$1,210	227	\$234	1,310	\$1,360
Ore and concentrate (zinc content)	822,000	322,000	183,000	82,400	787,000	322,000
Waste and scrap (gross weight)	47,700	23,000	5,050	3,410	39,700	25,300
Powders, flakes, dust (zinc content)	5,660	8,120	560	817	5,630	7,590
Oxide (gross weight)	10,800	14,600	927	937	10,000	11,900
Chloride (gross weight)	1,950	1,930	124	126	1,200	1,300
Sulfate (gross weight)	2,900	1,760	216	135	2,030	1,230
Compounds, other (gross weight)	217	600	13	42	134	361

¹Data are rounded to no more than three significant digits.

²Data for November 2003 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC¹

Material	2002		2003 ²			
	Quantity (metric tons)	Value (thousands)	October		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	874,000	\$716,000	59,900	\$52,200	620,000	\$520,000
Ore and concentrate (zinc content)	122,000	44,600	24,000	10,200	130,000	44,500
Waste and scrap (gross weight)	31,200	9,530	1,130	812	8,900	4,890
Powders, flakes, dust (zinc content)	30,900	47,800	2,890	4,170	23,600	35,300
Oxide (gross weight)	69,700	57,600	8,950	6,540	82,300	60,700
Chloride (gross weight)	716	775	109	131	608	774
Sulfate (gross weight)	20,100	10,300	2,000	853	22,300	9,960
Compounds, other (gross weight)	1,030	1,180	97	70	752	721

¹Data are rounded to no more than three significant digits.

²Data for November 2003 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE¹

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2002:			
November	109,000	--	109,000
December	109,000	--	109,000
Year	XX	5,040	XX
2003:			
January	109,000	516	108,000
February	108,000	--	108,000
March	108,000	--	108,000
April	108,000	200	108,000
May	108,000	997	107,000
June	107,000	--	107,000
July	107,000	3,530	104,000
August	104,000	712	103,000
September	103,000	841	102,000
October	102,000	--	102,000
November	102,000	539	102,000
January-November	XX	7,330	XX

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY^{1,2}

(Metric tons)

Material and country	General imports			Imports for consumption		
	2002	2003		2002	2003	
		October	Year to date		October	Year to date
Ore and concentrate (zinc content):						
Australia	41,800	7,270	27,400	41,800	7,270	27,400
Ireland	6,570	6,040	31,700	6,570	6,040	31,700
Mexico	12,700	4,420	5,880	12,700	4,420	5,880
Peru	61,100	6,280	64,700	61,100	6,280	64,700
Other	118	--	--	118	--	--
Total	122,000	24,000	130,000	122,000	24,000	130,000
Blocks, pigs, or slab:						
Australia	35,000	--	22,000	21,000	--	14,000
Brazil	30,200	1,470	20,300	30,200	1,480	15,100
Canada	523,000	40,300	416,000	523,000	40,300	416,000
China	39,700	--	23,800	1,040	--	22
Japan	10,500	--	50	--	--	--
Kazakhstan	93,200	--	12,000	93,200	--	12,000
Korea, Republic of	76,200	--	34,000	2,480	--	24
Mexico	136,000	11,900	116,000	136,000	11,900	116,000
Peru	36,000	6,270	37,600	34,300	6,270	37,100
Poland	9,340	--	1,600	9,340	--	1,600
Russia	10,700	--	--	10,700	--	--
Other	25,200	--	8,930	13,100	--	8,000
Total	1,020,000	59,900	693,000	874,000	59,900	620,000
Dross, ashes, fume (zinc content)						
Grand total	1,160,000	85,100	834,000	1,010,000	85,100	761,000
Oxide (gross weight):						
Canada	44,800	4,280	39,900	44,800	4,280	39,900
China	838	18	491	838	18	491
Japan	869	59	837	869	59	837
Mexico	19,900	3,750	33,500	19,900	3,750	33,500
Netherlands	2,640	290	3,850	2,640	290	3,850
Other	760	552	3,760	760	552	3,760
Total	69,700	8,950	82,300	69,700	8,950	82,300
Other (gross weight):						
Waste and scrap	31,200	1,130	8,900	31,200	1,130	8,900
Sheets	1,640	82	1,650	1,640	82	1,650
Powders, flakes, dust (zinc content)	30,900	2,890	23,600	30,900	2,890	23,600

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data for November 2003 were not available at time of publication.

Source: U.S. Census Bureau.